

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for selecting a modulation detector in a receiver which includes at least a first and a second detector, the method comprising:

determining at least one cross-correlation value between a stored training sequence and at least one training sequence of a received signal; and

selecting a detector used for detection of a signal to be received on the basis of the determined at least one cross-correlation value,

wherein the received signal is a complex signal, whereby at least one cross-correlation value to be determined is a complex cross-correlation value and wherein the determining at least one cross-correlation value is performed for a given number of training sequences of the received signal, and the method further comprises:

calculating an absolute value of an average of the determined cross-correlation values;

selecting the first detector for the detection of the signal to be received if the absolute value of the average of the cross-correlation values exceeds a preset limit value; and

selecting the second detector if the absolute value of the average of the cross-correlation values is below a preset limit value.

2. (Previously Presented) The method of claim 1, wherein determining at least one cross-correlation value further comprises:

searching for an ideal synchronization point of the received signal, at which point the cross-correlation between the training sequence of the received signal and the stored training sequence has a maximum value; and

calculating the cross-correlation value between the stored training sequence and the training sequence of the received signal, which is obtained by shifting a synchronization point of the received signal for one symbol sequence at least one of forwards or backwards from the ideal synchronization point.

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The method of claim [[3]]1, wherein the first detector includes a channel equalizer.

6. (Currently Amended) A receiver comprising:  
a first and a second modulation detector;  
means for determining at least one cross-correlation value between at least one training sequence of a received signal and a stored training sequence; and  
means for selecting a detector used for detection of a signal to be received based on the determined at least one cross-correlation value,

wherein the received signal is a complex signal, whereby at least one cross-correlation value to be determined is a complex cross-correlation value, and wherein the receiver further comprises:

means for collecting a predetermined number of cross-correlation values determined from the training sequences of the received signal; and

means for calculating an absolute value of an average of the determined cross-correlation values,

wherein the means for selecting the first detector for the detection of the signal to be received if the absolute value of the average of the cross-correlation values exceeds a preset limit value, and configured to select the second detector if the absolute value of the average of the cross-correlation values is below the preset limit value.

7. (Previously Presented) The receiver of claim 6, wherein the means for determining at least one cross-correlation value is configured to search for an ideal synchronization point of the received signal, at which point the cross-correlation between the training sequence of the received signal and the stored training sequence has a maximum value, and to calculate the cross-correlation value between the stored training sequence and the training sequence of the received signal, which is obtained by shifting a synchronization point of the received signal for one symbol sequence at least one of forwards or backwards from the ideal synchronization point.

8. (Cancelled)

9. (Cancelled)

10. (Currently Amended) The receiver of claim [[8]]6, wherein the first detector includes a channel equalizer.

11. (Currently Amended) A receiver comprising:  
a first and a second modulation detector configured to detect a received signal;  
determination module configured to determine at least one cross-correlation value between at least one training sequence of a received signal and a stored training sequence;  
and  
a first selector configured to select between the first and second modulation detectors,  
wherein the first and second modulation detectors are configured to detect the received signal based on the determined at least one cross-correlation value,  
wherein the received signal is a complex signal, whereby at least one cross-correlation value to be determined is a complex cross-correlation value,  
the receiver further comprising:  
a collector configured to collect a predetermined number of cross-correlation values determined from the training sequences of the received signal;  
a second calculator configured to calculate an absolute value of an average of the determined cross-correlation values;  
wherein the selector is configured to select the first detector for the detection of the signal to be received if the absolute value of the average of the cross-correlation values exceeds a preset limit value and configured to select the second detector if the absolute value of the average of the cross-correlation values is below the preset limit value.

12. (Previously Presented) The receiver of claim 11, wherein the determination module comprises:

a searcher configured to search for an ideal synchronization point of the received signal, at which point the cross-correlation between the training sequence of the received signal and the stored training sequence has a maximum value; and

a first calculator configured to calculate the cross-correlation value between the stored training sequence and the training sequence of the received signal, which is obtained by shifting a synchronization point of the received signal for one symbol sequence at least one of forwards or backwards from the ideal synchronization point.

13. (Cancelled)

14. (Cancelled)

15. (Currently Amended) The receiver of claim [[13]]11, wherein the first detector includes a channel equalizer.